

WHAT IS CLAIMED IS:

Sub A 1. Optical recording medium (1) comprising two information carrier layers (2, 3), on which information can be written by means of a focused light beam, a separating layer (8) arranged between said information carrier layers (2, 3), and a transparent covering layer (4, 5), which is arranged between said information carrier layer (2, 3) and a surface (6, 7) of the recording medium (1) and whose thickness substantially exceeds that of said information carrier layer (2, 3), wherein both information carrier layers (2, 3) are semi-transparent.

15 2. Optical recording medium according to Claim 1, wherein both information carrier layers (2, 3) can be read from both sides, but can be written to only from one side in each case.

20 3. Optical recording medium according to claim 2, wherein the total transmission factor of an information carrier layer (2, 3) with associated covering layer (4, 5) and separating layer (8) is too low to allow a quantity of light which suffices for a writing 25 operation to pass to the other information carrier layer (3, 2).

30 4. Optical recording medium according to claim 1, wherein the total transmission factor of an information carrier layer (2, 3) with associated covering layer (4, 5) and separating layer (8) is too low to allow a quantity of light which suffices for a writing 35 operation to pass to the other information carrier layer (3, 2).

5. Optical recording medium according to claim 4, wherein ^{a total} the transmission factor of ^{said} the information carrier layers (2, 3), given the presence of two information carrier layers (2, 3), is less than 10%.

6. Optical recording medium according to Claim 1, wherein ^{said} the separating layer ~~18~~ has at least one further information carrier layer ~~(2', 3')~~.

5

7. Optical recording medium according to claim 1, wherein ^{at total} the transmission factor of ^{said} the information carrier layers ~~(2, 3)~~, given the presence of two information carrier layers ~~(2, 3)~~, is less than 10%.

10

8. Optical recording medium according to claim 1, wherein ^{said} the information carrier layers ~~(2', 3')~~ are write-once layers.

WORM

15

9. Optical recording medium according to claim 1, wherein ^{said} the writable information carrier layers ~~(2, 2', 3, 3')~~ have a preformatted track ~~(20, 21, 22, 23)~~, whose rotational sense is unidirectional, and whose directional sense is one of unidirectional and opposed.

20

10. Apparatus for writing to optical recording media, ~~in particular optical recording media~~ according to Claim 1, comprising a light source ~~(24)~~, whose maximum power is lower than is necessary to write to a writable information carrier layer ~~(2, 2', 3, 3')~~ through a semi-transparent information carrier layer ~~(2, 2', 3, 3')~~.

25

11. Apparatus according to Claim 10, comprising a buffer memory (32) for data (DS) to be recorded, from which a control unit (31) reads out data in reverse order and outputs a corresponding recording signal (WS) to the light source ~~(24)~~.

30

12. Apparatus according to Claim 10, wherein a control unit (31) is provided, which assigns data (DS) that are to be recorded on the information carrier layer (2, 3) remote from the light source ~~(24)~~ firstly to a specific area (33, 33', 34) of the information

Sub
a27

carrier layer (3, 2) facing the light source (24), for recording, and which, after the recording medium (1) has been turned over, drives a scanner for reading out data located in the specific area (33, 33', 34) of the 5 information carrier layer (2, 3) which is then remote from the light source, and assigns these data to areas of the information carrier layer (3, 2) which is then facing the light source (24), for recording.

10 13. Apparatus for writing to optical recording media, in particular optical recording media according to Claim 1, comprising a buffer memory (32) for data (DS) to be recorded, from which a control unit (31) reads out data in reverse order and outputs a 15 corresponding recording signal (WS) to the light source (24).

14. Apparatus for writing to optical recording media, in particular optical recording media according 20 to Claim 1, wherein a control unit (31) is provided, which assigns data (DS) that are to be recorded on the information carrier layer (2, 3) remote from the light source (24) firstly to a specific area (33, 33', 34) of the information carrier layer (3, 2) facing the light 25 source (24), for recording, and which, after the recording medium (1) has been turned over, drives a scanner for reading out data located in the specific area (33, 33', 34) of the information carrier layer (2, 3) which is then remote from the light source, and 30 assigns these data to areas of the information carrier layer (3, 2) which is then facing the light source (24), for recording.

15. Method for writing to a multilayer optical 35 recording medium (1) that can be read on one side, characterized in that the operation of writing to at least one information carrier layer (2, 2', 3, 3') of the recording medium (1) takes place from the side opposite to the read-out side.

16. Method according to Claim 15, *wherein characterized in*
~~that~~, in order to write to an information carrier layer
~~(2, 3)~~ from the side opposite to the read-out side, the
5 direction of movement of the optical recording medium
~~(1)~~ is reversed.

17. Method according to Claim 15, *wherein characterized in*
~~that~~ data ~~(DS)~~ to be recorded are buffer-stored and
10 taken from ^{the} ~~the~~ buffer memory ~~(32)~~ in reverse order for
recording.

18. Method according to claim 15, *wherein characterized in*
~~that~~ the data read from the recording medium ~~(1)~~ is
15 output in reverse order.

19. System for writing to and reading from optical
recording media, comprising an apparatus according to
one of the preceding ~~apparatus~~ claims and a recording
20 medium according to one of the preceding recording
medium claims.